REMARKS

In the November 4, 2005 Office Action, the Examiner rejected claims 11-17 as allegedly obvious over U.S. Patent No. 5,317,175 to Throngnumchai (hereinafter "Throngnumchai") in view of U.S. Patent Application Publication No. 2002/0063292 to Armstrong et al. (hereinafter "Armstrong") further in view of Japanese Patent Application Publication No. 01076755 to Yasukawa (hereinafter "Yasukawa") and further in view of U.S. Patent No. 6,368,903 to Bryant et al. (hereinafter "Bryant").

Applicants respectfully traverse the Examiner's claim rejections, for the following reasons:

Claim 11 (from which claims 12-13 depend) and Claim 14 (from which claims 15-17 depend) both positively recite a semiconductor substrate that "has a (110) surface orientation **and** a notch pointing in a <001> direction of current flow."

Nothing in the cited references teaches or suggests a semiconductor substrate having a (110) surface orientation and a notch pointing in a <001> direction of current flow, as currently amended.

Specifically, Throngnumchai discloses a semiconductor substrate with a (011) surface orientation (see Throngnumchai, column 3, lines 8-10).

However, Throngnumchai does not, in any manner, teach or suggest that this semiconductor substrate contains a notch, much less a notch pointing in a <001> direction, as positively recited by claims 11-17 of the present application.

Armstrong discloses semiconductor wafers that each has a {100} surface plane with

a primary flat along the (110) plane (see Armstrong, Figures 2-3, and paragraphs {0023]-[0024]).

Armstrong does not teach or suggest a semiconductor substrate with a (110) surface orientation, much less a semiconductor substrate having a (110) surface orientation and a notch pointing in a <001> direction of current flow, as positively recited by claims 11-17 of the present application.

Therefore, Armstrong cannot remedy the above-described deficiency of Throngnumchai.

Yasukawa, like Throngnumchai, only discloses a semiconductor substrate with a {110} surface direction (see Figure 1 of Yasukawa), but fails to teach or suggest, in any manner, that this semiconductor substrate contains a notch, much less a notch pointing in a <001> direction, as positively recited by claims 11-17 of the present application.

Therefore, Yasukawa cannot remedy the deficiency of Throngnumchai and Armstrong.

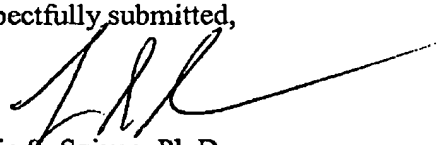
Nothing in the disclosure by Bryant relates to semiconductor substrates with specific surface orientations or specific notch orientations.

Therefore, Bryant cannot remedy the above-described deficiency of Throngnumchai, Armstrong, and Yasukawa.

In summary, Applicants' claimed invention, as defined by claims 11-17 of the present invention, patentably distinguishes over all the cited references.

Applicants correspondingly request the Examiner to withdraw the rejections of claims 11-17 and to issue a Notice of Allowance in Applicants' favor.

Respectfully submitted,



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